

# PATENT ABSTRACTS OF JAPAN

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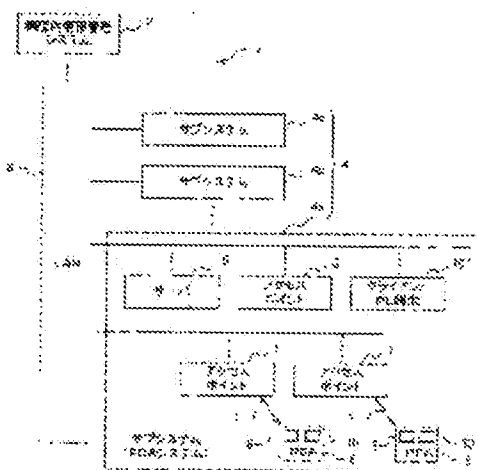
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## (54) HOSPITAL INFORMATION SYSTEM

(57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a hospital information system efficiently managing progress information of a clinical path, and flexibly coping with generation of variance.

**SOLUTION:** In this hospital information system, clinical path standardization information that is the progress information related to medical practice standardized for target accomplishment set in each case and that is the progress information comprising a plurality of pieces of medical practice information showing schedule related to the medical practice to a patient is held, patient-classified clinical path information that is information produced in each the patient on the basis of the clinical path standardization information is acquired, instruction information of the effect that the medical practice is executed from the medical practice information included in the patient-classified clinical path information is produced and is transmitted, and execution result information showing an execution result of the medical practice executed on the basis of the instruction information is acquired.



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CLAIMS

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[Claim(s)]

[Claim 1]

A maintenance means to hold the clinical pass standardization information which is the progress information about the standardized medical action towards the target achievement set up for every case, and is the progress information concerned which consists of plurality of the medical action information which shows the schedule about said medical action to a patient,

A clinical pass information acquisition means classified by patient to acquire the clinical pass information classified by patient which is the information created for said every patient based on said clinical pass standardization information,

A creation transmitting means to create the directions information on a purport that said medical action is carried out, and to transmit from said medical action information included in said clinical pass information classified by patient,

An operation result information acquisition means to acquire the operation result information which shows the operation result of said medical action carried out based on said directions information, HIS characterized by preparation \*\*\*\*\*.

[Claim 2]

Said HIS is ,

A standard operation comparison means to compare said clinical pass standardization information with said operation result information,

A notice means of a standard operation comparison to notify the result of the comparison by said standard operation comparison means,

HIS according to claim 1 characterized by preparation \*\*\*\*\*.

[Claim 3]

Said HIS is ,

A difference related information acquisition means to acquire the difference related information which is the information about the difference between said clinical pass standardization information and said operation result information

HIS according to claim 1 characterized by preparation \*\*\*\*\*.

[Claim 4]

Said difference related information is HIS according to claim 3 characterized by being generated with a personal digital assistant.

[Claim 5]

Said difference related information contains any one at least among the information about the factor which the difference between said clinical pass standardization information and said operation result information produced, the information about analysis of this factor, and the information about the dissolution measure of this factor.

HIS according to claim 3 characterized by things.

[Claim 6]

Said HIS is ,

A patient operation result information comparison means to compare said operation result information of two or more patients based on the same case,

A notice means of a patient operation result information comparison to notify the result of the comparison by said patient operation result information comparison means,

HIS given in any 1 term of the claims 1-5 characterized by preparation \*\*\*\*\*.

[Claim 7]

Said HIS is ,

A reflection means to make the comparison result by said patient operation result information comparison means reflect in said clinical pass standardization information,

HIS according to claim 6 characterized by preparation \*\*\*\*\*.

[Claim 8]

Said patient operation result information comparison means is HIS according to claim 7 characterized by comparing said clinical pass standardization information and each of said patient's operation result information.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[Field of the Invention]

[0001]

This invention relates to the HIS which preservation of the record carried out by outputting and inputting data with a personal digital assistant in operation record of the medical action based on clinical pass and the check of varians are performed, and can make a change of clinical pass.

[Background of the Invention]

[0002]

In recent years, in the medical field, in order to attain the increase in efficiency of current medicine, clinical pass is introduced. With clinical pass, the hospitalization and the treatment schedule according to each illness are standardized. Furthermore, if it states concretely, the contents, such as a therapy, inspection, a care, treatment, instruction, etc. to a patient with a certain kind of disease, the condition of timing and a patient, etc. will be summarized along with a time-axis.

[0003]

Moreover, the gap with a patient's standard progress assumed with this clinical pass and an actual patient's progress is called varians (deviation). By analyzing this varians, the inhibition factor of a standardization of a medical care process can be grasped, and that improvement can realize an effective medical care. Moreover, in clinical pass, the result, the effectiveness, or the achievement target predicted that a patient can leave hospital safely is called out cam.

[0004]

The system which paid its attention to such clinical pass is indicated, and nursing treatment planning which starts the various nursing therapy actions according to - illness classified by patient in a hospital, a hospital, etc. can be made easy to form, and it can be recorded and checked that the nursing therapy action has been appropriately performed according to this nursing treatment planning (for example, patent reference 1.).

[Patent reference 1] JP,2003-108661,A

[Description of the Invention]

[Problem(s) to be Solved by the Invention]

[0005]

When advancing a medical standardization and medical increase in efficiency conventionally, record to a paper medium is performed for collecting the data of a medical action in the medical institution which has adopted clinical pass, and the effort which collects the contents was needed. Moreover, in order to check the contents, a progress result, etc. of a medical action, the contents recorded on the paper medium need to be seen, judged and grasped, and the effort was required.

[0006]

Moreover, although it needed to judge objective, collecting data in order to raise the precision of clinical pass, many medical practitioners were involved depending on the case, and there was the condition of being hard to obtain the consensus of clinical pass. Moreover, there was no system which corrects clinical pass according to varians generating.

[0007]

moreover, the thing which operation record is performed and is done with a personal digital assistant for the comparison examination of the medical action carried out to the out cam under therapy progress with clinical pass, and the actual patient -- a system -- taking charge -- nursing -- mitigation of a teacher's record activity and objective

varians check.

In view of the above-mentioned technical problem, by this invention, the progress information on clinical pass can be managed efficiently, and the HIS which can respond to generating of varians flexibly is offered.

[Means for Solving the Problem]

[0008]

According to invention of a claim according to claim 1, the above-mentioned technical problem is the progress information about the standardized medical action towards the target achievement set up for every case. A maintenance means to hold the clinical pass standardization information which is the progress information concerned which consists of plurality of the medical action information which shows the schedule about said medical action to a patient, A clinical pass information acquisition means classified by patient to acquire the clinical pass information classified by patient which is the information created for said every patient based on said clinical pass standardization information, A creation transmitting means to create the directions information on a purport that said medical action is carried out, and to transmit from said medical action information included in said clinical pass information classified by patient, It can attain by offering the HIS characterized by having an operation result information acquisition means to acquire the operation result information which shows the operation result of said medical action carried out based on said directions information.

[0009]

Thus, by constituting, the contents, a progress result, etc. of a medical action of a patient are efficiently [ easily and ] manageable.

Moreover, according to invention of a claim according to claim 2, the above-mentioned technical problem can attain said HIS by offering the HIS according to claim 1 characterized by having further a standard operation comparison means to compare said clinical pass standardization information with said operation result information, and a notice means of a standard operation comparison to notify the result of the comparison by said standard operation comparison means.

[0010]

Thus, since standard progress information can be compared with actual progress information by constituting, generating of varians can be checked easily.

Moreover, according to invention of a claim according to claim 3, the above-mentioned technical problem can attain said HIS by offering the HIS according to claim 1 characterized by having a difference related information acquisition means to acquire further the difference related information which is the information about the difference between said clinical pass standardization information and said operation result information.

[0011]

Thus, by constituting, the information about the generating factor of varians is acquirable.

Moreover, according to invention of a claim according to claim 4, said difference related information can attain the above-mentioned technical problem by offering the HIS according to claim 3 characterized by being generated with a personal digital assistant.

[0012]

Thus, by constituting, the information about the generating factor of varians can be inputted from PDA.

Moreover, according to invention of a claim according to claim 5, the above-mentioned technical problem can attain said difference related information by offering the HIS according to claim 3 characterized by including any one at least among the information about the factor which the difference between said clinical pass standardization information and said operation result information produced, the information about analysis of this factor, and the information about the dissolution measure of this factor.

[0013]

Thus, by constituting, the information about analysis of the generating factor of varians or this factor and the dissolution measure of this factor is acquirable.

According to invention of a claim according to claim 6, the above-mentioned technical problem moreover, said HIS Furthermore, a patient operation result information comparison means to compare said operation result information of two or more patients based on the same case, It can attain by providing with the HIS of a publication any 1 term of the claims 1-5 characterized by having a notice means of a patient operation result information comparison to notify the result of the comparison by said patient operation result information comparison means.

[0014]

Thus, by constituting, the clinical pass of two or more patients of the same case can be compared.

Moreover, according to invention of a claim according to claim 7, the above-mentioned technical problem can

attain said HIS by offering the HIS according to claim 6 characterized by having further a reflection means to make the comparison result by said patient operation result information comparison means reflect in said clinical pass standardization information.

[0015]

Thus, since the clinical pass of two or more patients of the same case is compared and the result can be fed back to standard progress information by constituting, the standard progress information that precision is more high is generable.

Moreover, according to invention of a claim according to claim 8, the above-mentioned technical problem can attain said patient operation result information comparison means by offering the HIS according to claim 7 characterized by comparing said clinical pass standardization information and each of said patient's operation result information.

[0016]

Thus, since the clinical pass of two or more patients of the same case is compared and the result can be fed back to standard progress information by constituting, the standard progress information that precision is more high is generable.

[Effect of the Invention]

[0017]

By using this invention, it becomes recordable [ the medical action generated with clinical pass ], and the effort for grasping the effort for the data collection of a medical action, the contents of the medical action, progress, a result, etc. can be mitigated.

Moreover, since varians can be checked by comparing the recorded result with an out cam, correction of the clinical pass suitable for a patient can also be made easily and the operation result is accumulated as record, it becomes possible to raise the precision of a standardization by making data into a basis.

[0018]

Collection of data, are recording, and analysis can be realized to altitude by systematization of clinical pass, and offer of better medical actions, such as compaction of the progression in quality and \*\*\*\* days, a standardization of a care, and increase in efficiency of a medical resource, can be performed.

[Best Mode of Carrying Out the Invention]

[0019]

this invention performs operation record according the medical action carried out to the out cam under therapy progress with clinical pass, and the actual patient to a personal digital assistant, and carries out comparison examination -- a system -- taking charge -- nursing -- it is characterized by the ability to check mitigation of a teacher's record activity, and objective varians. Then, the detail of this operation gestalt is explained below.

[0020]

Drawing 1 is the block diagram showing the whole HIS configuration in this operation gestalt. As shown in this drawing, HIS 1 is arranged in medical facilities, for example, a hospital. The information in that hospital is connected with record and the information management system 2 in a hospital which carries out a centralized control unitary, and the information management system 2 in this hospital by LAN (Local Area Network)3 of a cable, and HIS 1 consists of the informational unit or two or more informational subsystems 4 (4a, 4b, 4c, ...) which can be transmitted and received through this LAN3.

[0021]

A subsystem (below, since PDA is used, it is written as a PDA system) 4 The server 5 which performs information processing about the informational control and the informational clinical pass of transmission and reception to PDA6, the clinical pass generated by the server 5 -- referring to -- a medical practitioner and nursing -- with the client PC terminal 101 which can change the result to which the teacher compared and considered the clinical pass The medical staff (for example, nursing teacher) carries. The personal digital assistant 6 which can be used (for example, PDA (Personal Digital Assistants)), It consists of access points 8 which are the data transfer means which enable access by the wireless LAN 7 from PDA6, and a server 5, the client PC terminal 101, and each access point 8 are connected by LAN3 of a cable.

[0022]

PDA6 builds in the wireless LAN card 9 (refer to drawing 2 ) which is the data I/O means a server 5 and whose communication link are enabled through an access point 8 on radio by wireless LAN 7, and the RF (Radio Frequency) reader 10 (refer to drawing 2 ) which performs a communication link in a radio frequency band as a reading means (equipment) of identification information.

[0023]

Drawing 2 is drawing showing the hardware configuration of PDA6. In this drawing, it connects mutually through the bus 17 and the wireless LAN card 9, the RF reader 10, CPU (Central Processing Unit)11, ROM (Read Only Memory)12 and RAM (Random Access Memory)13, the storage section 14, the actuation input section 15, and a display 16 can perform data transfer mutually under management by CPU11.

[0024]

The communication link of an alphabetic character, an image, and any other data is possible for the wireless LAN card 9 between the servers 5 of a subsystem 4 by the radio which minded the access point 8 as a base station currently installed in every place in a hospital.

The RF reader 10 can perform a communication link RF tag 10t and non-contact in the range of several m from several cm with the reinforcement of the electric wave which can be set as arbitration. Data reading from the memory in RF tag 10t and the data writing to this memory are possible for the RF reader 10 by the above-mentioned non-contact communication link to RF tag 10t.

[0025]

RF tag 10t, although it consists of flexible chips of for example, 4mm angle extent, is protected with pellicular resin and not being illustrated especially, it has CPU, memory, the antenna, the electromotive circuit, etc., an electromotive circuit carries out electromotive in response to the predetermined electric wave a of the radio frequency band from the RF reader 10, CPU operates with the electromotive force, and the data b in memory are transmitted to the RF reader 10.

[0026]

CPU11 is a central processing unit which manages the motion control of the PDA6 whole. ROM12 is memory in which the primary control program performed by CPU11 is stored beforehand, and CPU11 performs this primary control program at the time of starting of PDA6. Thus, CPU11 is performing fundamental control of actuation of the PDA6 whole.

[0027]

RAM13 is memory used also as main memory which is used as work-piece memory when CPU11 performs various kinds of application programs stored in the storage section 14, and is used if needed as a temporary storing field of various kinds of data.

The storage section 14 is memory which memorizes and holds various kinds of application programs and data. As the storage section 14, semiconductor memory, such as EEPROM (Electrically Erasable and Programmable Read Only Memory), is suitable. Especially EEPROM can rewrite the contents of storage upwards electrically, and is suitable for maintenance of the contents of storage at the point that supply of power is unnecessary.

[0028]

The actuation input section 15 is a touch panel prepared in the display 16. The actuation input section 15 is operated by the user of PDA6, detects the contents of this actuation, and transmits those contents of actuation to CPU11. CPU11 recognizes the contents of the directions from the user coping with the contents of actuation. A display 16 is a liquid crystal display, displays various kinds of information sent from CPU11, and provides a user with various kinds of information by vision.

[0029]

The I/O of various kinds of data of the RF reader 10 mentioned above, and this actuation input section 15 and display 16 is attained by performing a predetermined application program by CPU11. Thus, since PDA6 is equipped with wireless LAN 7, although it has constraint of the access range by the distance from an access point 8 which can be communicated, it accesses the information management system 2 in a hospital through a server 5 in the location of arbitration at the access within the limits, acquires medical order, and enables it to display the acquired medical order by the display of PDA6.

[0030]

Moreover, by making it possible to face reading the RF tag 10t identification information used broadly, and to read two or more kinds of RF tag 10t identification information at once in time by PDA6 equipped with the RF reader 10 nursing which carries this PDA6 -- the input (or reading) of identification information, such as the patient ID to whom, as for a teacher etc., that operation person ID and medical action are given, and Injection ID, -- correctness - it enables it to carry out simply and quickly

[0031]

A sex does not have RF tag 10t read at once in reading one by one, and random reading is possible for it. The identification information read at random is asked to the information management terminal in a hospital, and



displays an inquiry result on the screen of PDA6.

Moreover, this PDA6 has the waterproofing structure of having the resistance over a drug solution, and is made into the structure which is easy to use in a medical site.

[0032]

here -- especially -- nursing -- the nurse system and ward system by which a teacher performs a medical action -- setting -- each nursing -- when a teacher carries PDA6, it is the location performed even at the operation location of a medical action, and the bedside of the patient who is specifically in the hospital, and the medical action information can be outputted and inputted. Consequently, the situation of a medical action can record on real time, and it can grasp now. That is, it comes to be able to perform record and grasp of an exact medical action, without the delay from the time of day when the medical action was carried out in the operation location of a medical action occurring.

[0033]

Moreover, since the medical action of a work program can be performed after being able to check the contents of the work program of the medical action by PDA6 and checking the contents of the work program when performing a medical action in the operation location of a medical action, the medical (planned) action which should be carried out can be performed in the exact condition with few errors.

[0034]

Moreover, the record is performed immediately after operation, checking the contents of operation in the operation location, also when recording the carried-out medical action, since record of the contents which performed the medical action can be inputted by use of PDA6 in the operation location of the medical action. Therefore, it is recordable in the exact condition with few errors.

[0035]

Moreover, since it can also make it easy to refer to most contents of a work program of the medical action to the location and time amount of arbitration, or to check them by use of portable PDA6 when performing a medical action, it is easy to advance a medical action smoothly. Moreover, since the contents of a work program can be checked in the operation location just before operation even if it is a case so that the contents of a work program may be changed, it is easy to carry out management also to modification of the contents of a work program.

[0036]

Moreover, since the carried-out contents can be correctly recorded on real time when a medical action is carried out in this way, it also becomes possible to improve a system more appropriately in the analysis of subsequent record data.

Information carried out by such PDA6 can be checked also at the client PC terminal 101, and modification of the contents of registration is possible for it if needed. This is a function as a measure when inputting accidentally the contents which carried out operation registration, and it can leave modification hysteresis now at the time of modification.

[0037]

Moreover, as for the case with which the client PC terminal 101 is registered into the standard therapy, batch processing can also do KURUNI cull pass as order which can be carried out by PDA6. That is, since the viewing area of a screen is large compared with PDA6, the client PC terminal 101 can display two or more input items at once. Therefore, when inputting the operation results (for example, a patient's temperature, blood pressure, a pulse, etc.) inputted by being collected to some extent, those items can be inputted collectively.

[0038]

Moreover, about such an input screen, a troublesome setup was not needed but an operator's burden is mitigated by the easy operation of specifying clinical pass. Of course, according to a patient, fine tuning of the contents of order is also possible. In addition, the detail about the ordering function of clinical pass is omitted here.

[0039]

Drawing 3 shows the hardware configuration of a server 5 and the client PC terminal 101. The control section 22 which performs the processing and the operation by the program in this drawing (CPU), With the storage section 21 which memorizes required data, for example, a mouse, a keyboard, Or the input interface 23 which connects these equipments in order to input an instruction or data from the input devices 26, such as a personal digital assistant, (an interface is hereafter called I/F), for example, output I/F24 which connects these equipments since data are outputted to the output units 27, such as a printer and a display, communication link I/F20 which is an interface for connection with networks, such as LAN, and the bus 25 which connects these -- since -- it is constituted.

[0040]

Drawing 4 is a conceptual diagram by which the operation order of patient progress information is created from the classification of an out cam (achievement target). Although clinical pass is set according to a case, the target (out cam) attained by the setup with the clinical pass is also produced. In order to realize this out cam, there is a concept of such an out cam of a break in and a patient's out cam.

[0041]

The out cams of a break in are contents (task: for example, it should do explanation which should be dealt with and done, which should be inspected and done and which should be guided and done) carried out to a patient. A patient's out cam is the information (for example, patient condition observation: blood pressure and urine volume, an everyday actuation: walk and conversation, knowledge: patient understanding, complication: symptom which appeared during the therapy) acquired from the patient as a result of the out cam of a break in.

[0042]

Although the information is generated before order release since the out cams of a break in are the contents to carry out, since a patient's out cam is for inputting information as a result of carrying out, only the input item will be created before order release.

From the above, clinical pass is set according to the case, the task and the patient condition of having met the out cam of a break in and a patient's out cam, everyday actuation, knowledge, and the item of complication are created, and each order is generated. At this time, order may be generated automatically, when the clinical pass to a case is chosen.

[0043]

nursing -- a teacher incorporates the generated order to PDA6, and does operation registration of the patient condition to patient progress information at a bedside based on the incorporated order information. Although it carries out one item at a time since a list required for a patient's progress information is displayed on the display 16 of PDA6 by list, according to the message of a display 16, it is carrying out the tap of the display 16 with an attached touch pen etc., and, as for operation registration, the actuation input section 15 recognizes operation registration data.

[0044]

Operation registration data are then registered further into a server 5 via an access point 8 and LAN3 via wireless LAN 7 from the wireless LAN card 9 taking advantage of real-time communication facility. The data by which operation registration was carried out by PDA6 can be changed if needed while being able to check them from 101 in the end of client PC \*\*.

[0045]

In addition, order to carry out is published from the client PC terminal 101, and can be incorporated per a patient unit or ward to the PDA terminal 6. If operation registration of the incorporated order is carried out by PDA6, it will register with a server 5 on real time. The order of clinical pass has a good condition as compared with standard progress information, is bad, or is satisfactory, or the varians difference comparison of \*\* is performed, and a difference result is notified to PDA6. A detailed check can be performed also from the client PC terminal 101.

[0046]

Drawing 5 is the example of a screen which displayed the difference between the standard progress information on an out cam, and patient progress information based on the data by which operation registration was carried out. The graph of this drawing is expressed as the screen of the client PC terminal 101. (The line shown by B) becomes (the line shown by A) about whether a patient's condition is getting better more compared with standard progress (dotted line), and becomes quite obvious about whether it is getting worse, and a plan to turn to leaving hospital becomes easy to stand what is understood from drawing 5 by having carried out clinical pass.

[0047]

Although it needed to evaluate by carrying out clinical pass and copying out patient progress information on paper etc. conventionally, the result carried out by PDA6 could be processed by the server 5, and while the result was answered by PDA6, condition grasp was easily attained at the client PC terminal.

For this reason, a report of a medical-examination result can explain to a patient objective, and informed consent has become is easy to be obtained. Moreover, when the person of a position who received the notice, for example, can issue directions of a medical action like a medical practitioner is using PDA6, you may enable it to change clinical pass by PDA6 which received the notice.

[0048]

In addition, looking again is possible to change the clinical pass to a patient, when varians occurred. At this time, it registers how it improved using the varians generating classification list mentioned later. The registered contents

are saved as a varians cure list. The inclination of correspondence becomes clear by referring to a varians cure list, and it can use for reference of standard progress information creation.

[0049]

Drawing 6 shows a varians generating classification list. It does not illustrate especially about OPERESHO for creating this table. Since a varians generating classification table is displayed on the display 16 of PDA6 when looking over an out cam again with generating of varians, a cause and a cure are registered by choosing the corresponding item from a pull down menu. In addition, it is also possible to register by addition about the item which is not in a pull down menu.

[0050]

Modification of clinical pass is serially accumulated in the server 5 as data. In a server 5, since unitary management of all the information on Innai is carried out, other reference and comparison examination of clinical pass are easily possible.

The medical action currently performed to the charge patient by referring to other patient progress information on the same case can compare objective as that of the right, or a basis. Moreover, when two or more same clinical pass is compared and the same difference as patient progress information can see to the standard progress which it has now, it enables it to consider the patient progress information that the difference was seen to be a right progress value, to be able to change a standard progress master, and to create the high clinical pass of precision more.

[0051]

Drawing 7 shows the situation of selection of the varians generating classification list of [ on PDA6 ]. If PDA6 is operated and "a varians generating classification" is chosen from a menu screen, it will change on the screen which chooses a factor among varians generating classifications (refer to drawing 7 (a)).

A factor is chosen from the list item 30 currently displayed on the screen of drawing 7 (a). For example, if "a patient and a family factor" are chosen, it will change on the screen which chooses a factorial experiment among varians generating classifications (refer to drawing 7 (b)).

[0052]

A factorial experiment is chosen from the list item 31 currently displayed on the screen of drawing 7 (b). For example, if it chooses "it is therapy delay at diabetes mellitus", it will change on the screen which chooses item modification among varians generating classifications ( drawing 7 (c)).

Item modification is chosen from the list item 32 currently displayed on the screen of drawing 7 (c). For example, when "reexamination of adaptation and a therapy" is chosen and the depression of the non-illustrated "O.K." carbon button is carried out, the information on the factor inputted above, a factorial experiment, and item modification is transmitted to a server 5, and such information is stored in a server 5.

[0053]

Drawing 8 shows a series of flows from issue of order to reexamination of order. In S1, when clinical pass can be applied according to an actual patient case, clinical pass is chosen. In S2, creation of the order based on clinical pass is performed automatically. Although a patient's basic information (age, sex, health condition, etc.) is also considered and created at this time, what can perform directions of a medical action like a medical practitioner if needed may customize.

[0054]

It carries out by PDA6 based on the published order S3. At S4, the carried-out order is compared by the server 5. A comparative object is the fundamental progress information on the clinical pass which the server 5 holds.

In S5, the result compared by S4 is notified to PDA6. In addition, PDA6 for a notice is only PDA6 holding the patient information to which clinical pass is applied. It does not notify to unrelated PDA6. Moreover, in order that a doctor in charge may check, it is notified also to the client PC terminal 101. Moreover, it depends on the set point for the situation notified. It can carry out, when it doubled with a patient's aspect, and it is made to notify serially, it is 1 time per or varians occurs day in a stationary phase.

[0055]

If it judges whether varians occurred or not and has not generated in S6, order is continued as it is. When varians occurs, explanation to the patient of S7 is given. In addition, this explanation may be given by decision of a medical practitioner. In S8, when it judges that modification of order is required according to a patient's condition, reexamination S9 of order is carried out, and clinical pass is carried out by new order. When it is judged as a standby for a while, it does not change but order as before is carried out.

[0056]

Drawing 9 makes the flow of drawing 8 a detail. A patient's clinical pass is inputted by operators (for example, a

medical practitioner and nursing teacher etc.) on the client PC terminal 101. An operator starts the program concerning this operation gestalt installed in the client PC terminal 101 using input units, such as a mouse.

[0057]

The control section 22 which received this starting instruction reads the above-mentioned program memorized by the storage section 21, and starts a program. If this program is started, the menu screen of a clinical pass setting system is displayed on the display. If two or more carbon buttons to the processing screen according to processing of each business exist in this menu screen and "selection of clinical pass" carbon button is chosen from that inside, since a patient selection list will be displayed, if a there predetermined patient is chosen, it will change on the screen which chooses the clinical pass about that patient.

[0058]

On the screen which chooses clinical pass, clinical pass can be chosen according to a patient's case. Then, if clinical pass is chosen, it will change on the screen (henceforth a clinical pass setting screen) which sets the detailed clinical pass about the patient. At this time, a clinical pass setting screen acquires the default data of the clinical pass chosen from the server 5 above.

[0059]

Here, if the default data of clinical pass are explained, the chicken type data of clinical pass will be stored in the predetermined field of the store in a server 5 at the server 5, and the default data of clinical pass will be transmitted to the client PC terminal 101 based on this. The default data of clinical pass are the chicken type copies of data of clinical pass, are data initialized about the selected clinical pass, and are data which consist of standard progress information on the clinical pass mentioned above.

[0060]

The default data of clinical pass are constituted as a schedule which combined medical actions, such as a therapy, inspection, and medication, and the information about each medical action of a before [ from scheduled initiation / from termination, for example, hospitalization, / leaving hospital ] is included.

now, when it returns to the talk of a clinical pass setting screen, it is contained in clinical pass on a clinical pass setting screen -- various -- it can attach a medical action (for example, a therapy, inspection, medication), and a detailed setup can be carried out (S11). That is, at the client PC terminal 101, more detailed information can be added about the default data of the acquired clinical pass according to default-data each patient of clinical pass.

[0061]

For example, if it says about medication, it can set up the how much [ whether amount use is carried out and ] of how much carry out period medication of which drugs. If the depression of the "O.K." carbon button in [ after setting up on a clinical pass setting screen ] the screen concerned is carried out, it will be transmitted to a server 5 and the inputted contents (henceforth clinical setting information) will be registered.

[0062]

The server 5 which received clinical setting information extracts the medical action information which is the treatment information carried out to the patient contained in the clinical setting information, and creates medical action implementation directions (order information) (S12). nursing whose created order information takes charge of the patient -- it is transmitted to PDA6, such as a teacher.

[0063]

nursing with PDA (S13)6 which received order information -- a teacher checks the contents of the order information and carries out the medical actions as the order (for example, thermometry, pulse measurement, blood pressure measurement, medication, etc.) to a patient. And operation results -- what times a patient's temperature was as a result of thermometry or how much blood pressure was -- are inputted into PDA6, and it transmits to a server 5 (S14).

[0064]

A server 5 compares the order and standard progress information which were carried out, if the operation result information on the order is received (S15) (S16). Speaking of the temperature of the patient of the next day of a certain operation, according to standard progress information, a comparison here is 37 degrees, for example, but when it is 38 degrees in practice, standard progress information:37 degree and the operation result information:38 degree of order will be measured. In addition, the comparative object and approach change with carried-out contents, and is not limited. For example, the information about the body of patients, such as temperature and blood pressure, itself can compare, or whether it continued during the period and the progress period whose febricula is how much can compare.

[0065]

Next, information is created as a result of the comparison of S16 (S17), and the comparison result information is transmitted to the client PC terminal 101 and PDA6. The client PC terminal 101 and PDA6 receive the comparison result information (S18, S24). at the client PC terminal 101, when comparison result information was received, it explained by drawing 5 -- as -- as actual on a screen progress information as standard progress information -- a graph -- it is-izing and displayed. Moreover, the value of a criterion with not only displaying a series of progress information like drawing 5 but the clinical pass about for example, each medical action and actual measured value may be displayed.

[0066]

Moreover, the information about the standard progress about a medical action and the difference of an operation result is displayed on the display 16 of PDA6 which received comparison result information irrespective of the existence of varians. For example, speaking of the example of the above-mentioned thermometry, "standard progress information:37 degree, operation result information:38 degree, and varians:1 degree" are displayed.

[0067]

and nursing which checked such contents -- the varians generating classification explained by drawing 6 and drawing 7 can be inputted by the teacher (S25). that is, nursing -- a teacher can input the factor of the varians corresponding to an operation result, and a factorial experiment and a modification item. for example, the case where it is 39 degrees when actually taking temperature although the temperature expected was 37 degrees on clinical pass -- nursing -- a teacher inputs the factor of varians, and a factorial experiment and a modification item with the operating procedure of drawing 7 using PDA6. It is related with the operation result, and is transmitted to a server 5, and such information is stored in the predetermined field of the storage of a server 5 (S26).

[0068]

Now, in S18, the medical practitioner who saw the result displayed at the client PC terminal 101 judges whether varians has occurred or not (S19). If it judges that varians has not occurred in S19, as it returns to S13 and being described above, processing after this will be performed. If it judges that varians has occurred, a situation will be explained to a patient (S20). Situation explanation to this patient is carried out by decision of a medical practitioner. At this time, it can register to a server 5 whether situation explanation was given using the client PC terminal 101 (S21).

[0069]

Next, as for a medical practitioner, modification of clinical pass judges whether it is the need (S22). If it judges that clinical pass does not need to be changed, as it returns to S13 and being described above, processing after this will be performed.

If it judges that clinical pass needs to be changed, a medical practitioner will look over order again (S23).

reexamination of order -- change of a patient's condition -- doubling -- changing into another drugs in changing the dose of drugs \*\*\*\* -- etc. -- the existing clinical setting information is changed. This change can be made on the clinical pass setting screen on the client PC terminal 101 like S11.

[0070]

If clinical setting information is changed on a clinical pass setting screen, it will be transmitted to a server 5 and the clinical setting information on a server 5 will be updated. Processing after S12 mentioned above is performed.

Thus, since varians can change a medical action flexibly according to generating, it can respond to change of a patient's condition easily, and suitable measures can be taken. Moreover, two or more patients' varians information can be collected about the clinical pass setting information on the same case, and they can also be compared.

Moreover, statistics of such information can be taken and the chicken type data used as the radical of the clinical pass setting information can also be updated.

[0071]

Namely, if the value of four days was acquired from the statistics which the treatment set up in three days actually collected by chicken type data about the same medical action of the clinical pass setting information on the same case Since it will be said that the precision of a setup of chicken type data was low from the first, chicken type data with a more high precision (standard progress information) are generable reflecting in chicken type data (standard progress information) this information acquired statistically, i.e., by making it feed back.

[0072]

As mentioned above, it becomes recordable [ the medical action generated with clinical pass ] by this system, and the effort for grasping the effort for the data collection of a medical action, the contents of the medical action, progress, a result, etc. can be mitigated.

Moreover, since varians can be checked by comparing the recorded result with an out cam, correction of the clinical

pass suitable for a patient can also be made easily and the operation result is accumulated as record, it becomes possible to raise the precision of a standardization by making data into a basis.

[0073]

Collection of data, are recording, and analysis can be realized to altitude by systematization of clinical pass, and offer of better medical actions, such as compaction of the progression in quality and \*\*\*\* days, a standardization of a care, and increase in efficiency of a medical resource, can be performed.

[Brief Description of the Drawings]

[0074]

[Drawing 1] It is the block diagram showing the whole HIS configuration.

[Drawing 2] It is drawing showing the hardware configuration of PDA.

[Drawing 3] It is drawing showing the hardware configuration of a server 5 and the client PC terminal 101.

[Drawing 4] It is the conceptual diagram by which the operation order of patient progress information is created from the classification of an out cam (achievement target).

[Drawing 5] It is drawing showing the example of a screen which displayed the difference between the standard progress information on an out cam, and patient progress information based on the data by which operation registration was carried out.

[Drawing 6] It is drawing showing a varians generating classification list.

[Drawing 7] It is drawing having shown the situation of selection of the varians generating classification list of [ on PDA ].

[Drawing 8] A series of simple flows from issue of the selection and order of clinical pass to reexamination of order are shown.

[Drawing 9] A series of detailed flows from issue of the selection and order of clinical pass to reexamination of order are shown.

[Description of Notations]

[0075]

1 HIS

2 Information Management System in Hospital

3 LAN

4 (4a, 4b, 4c) Subsystem (PDA system)

5 Server

6 PDA

101 Client PC Terminal

9 Wireless LAN Card

10 RF Reader

11 CPU

12 ROM

13 RAM

14 Storage Section

15 Actuation Input Section

16 Display

17 Bus

20 Communication Link I/F

21 Storage Section

22 Control Section

23 Input I/F

24 Output I/F

25 Bus

26 Input Unit

27 Output Unit

30, 31, 32 List item

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[Translation done.]

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TECHNICAL FIELD

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[Field of the Invention]

[0001]

This invention relates to the HIS which preservation of the record carried out by outputting and inputting data with a personal digital assistant in operation record of the medical action based on clinical pass and the check of variants are performed, and can make a change of clinical pass.

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PRIOR ART

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[Background of the Invention]

[0002]

In recent years, in the medical field, in order to attain the increase in efficiency of current medicine, clinical pass is introduced. With clinical pass, the hospitalization and the treatment schedule according to each illness are standardized. Furthermore, if it states concretely, the contents, such as a therapy, inspection, a care, treatment, instruction, etc. to a patient with a certain kind of disease, the condition of timing and a patient, etc. will be summarized along with a time-axis.

[0003]

Moreover, the gap with a patient's standard progress assumed with this clinical pass and an actual patient's progress is called varians (deviation). By analyzing this varians, the inhibition factor of a standardization of a medical care process can be grasped, and that improvement can realize an effective medical care. Moreover, in clinical pass, the result, the effectiveness, or the achievement target predicted that a patient can leave hospital safely is called out cam.

[0004]

The system which paid its attention to such clinical pass is indicated, and nursing treatment planning which starts the various nursing therapy actions according to - illness classified by patient in a hospital, a hospital, etc. can be made easy to form, and it can be recorded and checked that the nursing therapy action has been appropriately performed according to this nursing treatment planning (for example, patent reference 1.).

[Patent reference 1] JP,2003-108661,A

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EFFECT OF THE INVENTION

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[Effect of the Invention]

[0017]

By using this invention, it becomes recordable [ the medical action generated with clinical pass ], and the effort for grasping the effort for the data collection of a medical action, the contents of the medical action, progress, a result, etc. can be mitigated.

Moreover, since varians can be checked by comparing the recorded result with an out cam, correction of the clinical pass suitable for a patient can also be made easily and the operation result is accumulated as record, it becomes possible to raise the precision of a standardization by making data into a basis.

[0018]

Collection of data, are recording, and analysis can be realized to altitude by systematization of clinical pass, and offer of better medical actions, such as compaction of the progression in quality and \*\*\*\* days, a standardization of a care, and increase in efficiency of a medical resource, can be performed.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention]

[0005]

When advancing a medical standardization and medical increase in efficiency conventionally, record to a paper medium is performed for collecting the data of a medical action in the medical institution which has adopted clinical pass, and the effort which collects the contents was needed. Moreover, in order to check the contents, a progress result, etc. of a medical action, the contents recorded on the paper medium need to be seen, judged and grasped, and the effort was required.

[0006]

Moreover, although it needed to judge objective, collecting data in order to raise the precision of clinical pass, many medical practitioners were involved depending on the case, and there was the condition of being hard to obtain the consensus of clinical pass. Moreover, there was no system which corrects clinical pass according to varians generating.

[0007]

moreover, the thing which operation record is performed and is done with a personal digital assistant for the comparison examination of the medical action carried out to the out cam under therapy progress with clinical pass, and the actual patient -- a system -- taking charge -- nursing -- mitigation of a teacher's record activity and objective varians check.

In view of the above-mentioned technical problem, by this invention, the progress information on clinical pass can be managed efficiently, and the HIS which can respond to generating of varians flexibly is offered.

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MEANS

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[Means for Solving the Problem]

[0008]

According to invention of a claim according to claim 1, the above-mentioned technical problem is the progress information about the standardized medical action towards the target achievement set up for every case. A maintenance means to hold the clinical pass standardization information which is the progress information concerned which consists of plurality of the medical action information which shows the schedule about said medical action to a patient, A clinical pass information acquisition means classified by patient to acquire the clinical pass information classified by patient which is the information created for said every patient based on said clinical pass standardization information, A creation transmitting means to create the directions information on a purport that said medical action is carried out, and to transmit from said medical action information included in said clinical pass information classified by patient, It can attain by offering the HIS characterized by having an operation result information acquisition means to acquire the operation result information which shows the operation result of said medical action carried out based on said directions information.

[0009]

Thus, by constituting, the contents, a progress result, etc. of a medical action of a patient are efficiently [ easily and ] manageable.

Moreover, according to invention of a claim according to claim 2, the above-mentioned technical problem can attain said HIS by offering the HIS according to claim 1 characterized by having further a standard operation comparison means to compare said clinical pass standardization information with said operation result information, and a notice means of a standard operation comparison to notify the result of the comparison by said standard operation comparison means.

[0010]

Thus, since standard progress information can be compared with actual progress information by constituting, generating of variants can be checked easily.

Moreover, according to invention of a claim according to claim 3, the above-mentioned technical problem can attain said HIS by offering the HIS according to claim 1 characterized by having a difference related information acquisition means to acquire further the difference related information which is the information about the difference between said clinical pass standardization information and said operation result information.

[0011]

Thus, by constituting, the information about the generating factor of variants is acquirable.

Moreover, according to invention of a claim according to claim 4, said difference related information can attain the above-mentioned technical problem by offering the HIS according to claim 3 characterized by being generated with a personal digital assistant.

[0012]

Thus, by constituting, the information about the generating factor of variants can be inputted from PDA.

Moreover, according to invention of a claim according to claim 5, the above-mentioned technical problem can attain said difference related information by offering the HIS according to claim 3 characterized by including any one at least among the information about the factor which the difference between said clinical pass standardization information and said operation result information produced, the information about analysis of this factor, and the information about the dissolution measure of this factor.

[0013]

Thus, by constituting, the information about analysis of the generating factor of variants or this factor and the

dissolution measure of this factor is acquirable.

According to invention of a claim according to claim 6, the above-mentioned technical problem moreover, said HIS Furthermore, a patient operation result information comparison means to compare said operation result information of two or more patients based on the same case, It can attain by providing with the HIS of a publication any 1 term of the claims 1-5 characterized by having a notice means of a patient operation result information comparison to notify the result of the comparison by said patient operation result information comparison means.

[0014]

Thus, by constituting, the clinical pass of two or more patients of the same case can be compared.

Moreover, according to invention of a claim according to claim 7, the above-mentioned technical problem can attain said HIS by offering the HIS according to claim 6 characterized by having further a reflection means to make the comparison result by said patient operation result information comparison means reflect in said clinical pass standardization information.

[0015]

Thus, since the clinical pass of two or more patients of the same case is compared and the result can be fed back to standard progress information by constituting, the standard progress information that precision is more high is generable.

Moreover, according to invention of a claim according to claim 8, the above-mentioned technical problem can attain said patient operation result information comparison means by offering the HIS according to claim 7 characterized by comparing said clinical pass standardization information and each of said patient's operation result information.

[0016]

Thus, since the clinical pass of two or more patients of the same case is compared and the result can be fed back to standard progress information by constituting, the standard progress information that precision is more high is generable.

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## DESCRIPTION OF DRAWINGS

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[Translation done.]

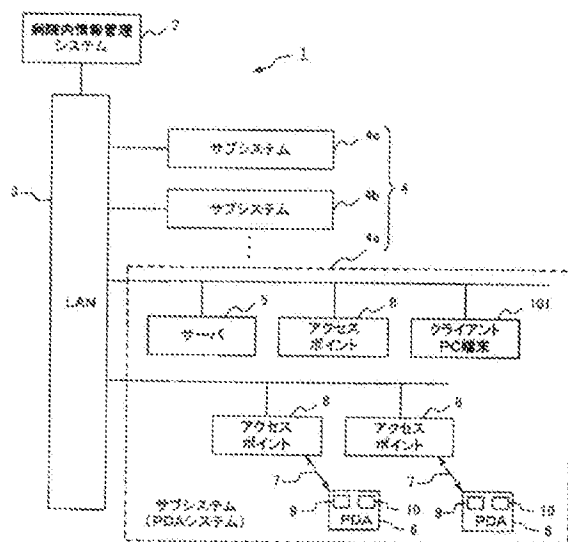
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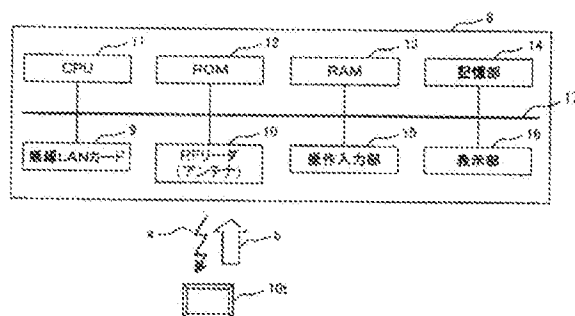
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## DRAWINGS

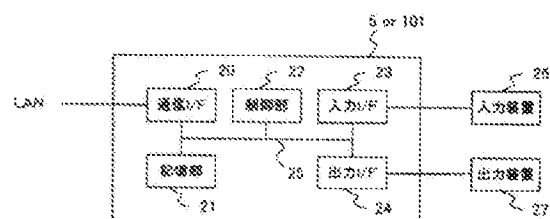
[Drawing 1]



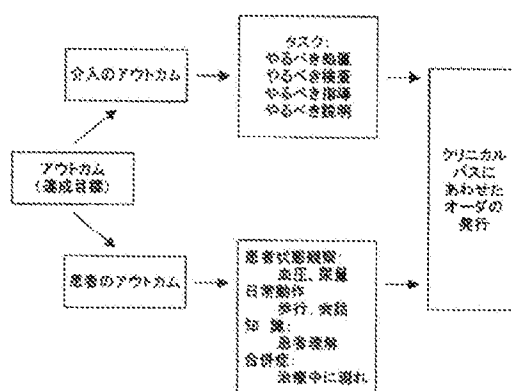
[Drawing 2]



[Drawing 3]

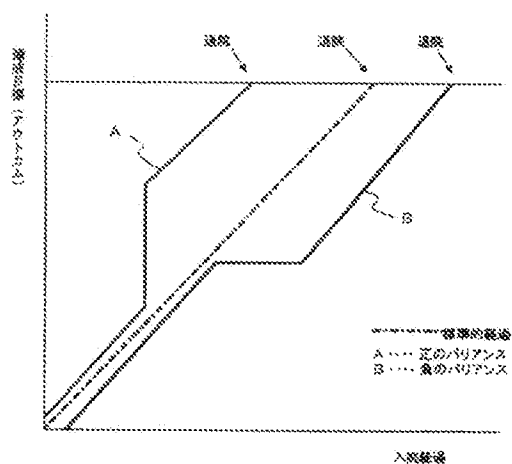


[Drawing 4]



[Drawing 5]

バリエーション発生状況表示例

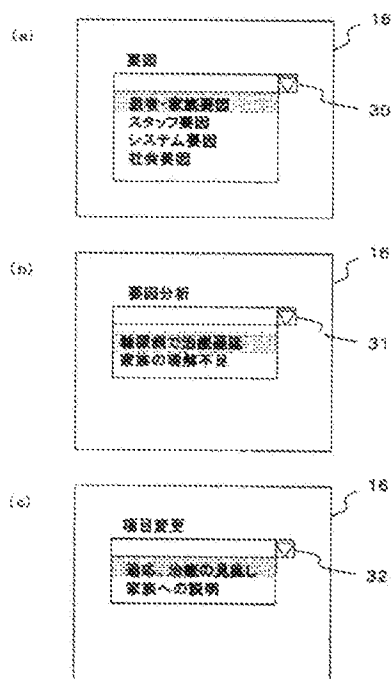


[Drawing 6]

バリエーション発生分類の表示図

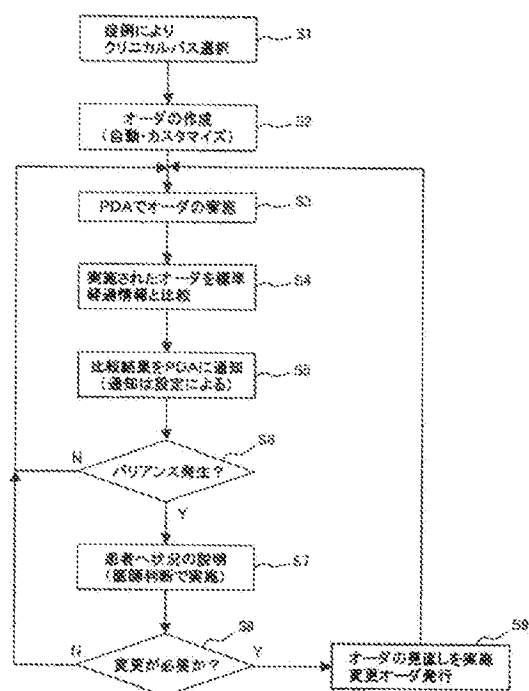
要因	要因分析	変置項目
患者・家族要因	・病院内で治療希望 ・家族の理解不足	・通院、治療の見直し ・家族への説明
スタッフ要因	・診察 ・患者取り違え ・指示ミス	・教育 ・シフト
システム要因	・機器の故障 ・予約実行	・機器、設備の効率利用
社会要因	・保険金確保不能 ・家族内介護不足	・病員通院 ・病床規制の見直し ・訪問看護

[Drawing 7]

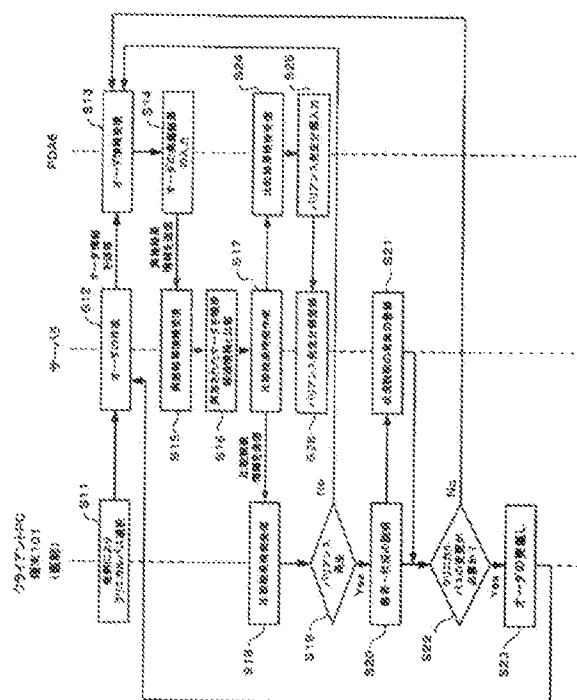


[Drawing 8]





[Drawing 9]



[Translation done.]